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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/486,116	02/18/2000	HIROSHI MIYAZAWA	0670-225	1535

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EXAMINER	
PATEL, GAUTAM	

ART UNIT	PAPER NUMBER
2655	19

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/486,116	MIYAZAWA ET AL.	
	Examiner	Art Unit	
	Gautam R. Patel	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,16 and 18-32* is/are pending in the application.

4a) Of the above claim(s) *24-26* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,16,18-23 and 27-32* is/are rejected.

7)☒ Claim(s) *6* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12, 18*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-9, 16, 18-32 are pending for the examination.

RCE STATUS

2. The request filed on 10-9-01 for Request for continued Examination (RCE) under 37 CFR 1.114 based on parent Application is acceptable and a RCE has been established. An action on the RCE follows.

NOTES & REMARKS

3. The omission of IDS originally filed [as paper no. 18] and IDS paper number 12 [with correction] are enclosed herewith.

4. The Applicants are urged to cancel non-elected claims 24-26.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-5, 7-9, 16, 18-23 and 27-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Fujisawa, US. patent 5,497,366 (hereafter Fujisawa) in view of Noda et al., EPA 316,959 (hereafter Noda).

As to claim 1, Fujisawa discloses the invention as claimed [see Figs. 7-21B, especially 7-11 and 14], including an optical pickup , which has objective spot forming means, a plurality of photodetectors, a chassis, and various support means comprising:

(a) objective spot forming means (fig. 7, unit 51) for forming each spot of a plurality of light beams entered via a collimator (fig. 7 and 11, unit 83), on each track of a recording medium (fig. 14, unit 1) [col. 8, lines 47-57; col. 13, lines 12-18; and col. 15, lines 50-66];

(b) a series of photodetectors (figs. 7, 11 and 15, units 98 and 99) each provided for each spot for receiving reflected light of each spot, the reflected light having passed through said objective spot forming means, said collimator, and focus adjusting means in this order [col. 15, line 17 to col. 16, line 2]; and

(c) a chassis (fig. 8, unit 57) mounted with said collimator [col. 13, lines 12-39], wherein said focus adjusting means and said plurality of photodetectors are supported respectively by a focus adjusting means support member (fig. 7, unit 63) and a photodetector support member (fig. 7, unit 79) formed separately from said chassis (57), and the focus adjusting means support member and the photodetector support member are fixed to said chassis at positions along an optical axis [col. 15, lines 8-49; col. 9, lines 39-67];

Fujisawa teaches all of the above elements including plural photodetectors. Fujisawa does not teach a device for visual confirmation (CCD). "Official Notice" is taken that both the concept and the advantages of providing for visual displays which can display different light and spot forming are well known and expected in the art. It would have been obvious to include a visual display (CCD) to system of Fujisawa as this display units are known to provide the operator with visual feedback to verify the exact spot being formed on the disc and thereby saving time and money on wrong

alignment. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03];

Fujisawa discloses all of the above elements including a series of photodetectors. The Fujisawa does not specifically disclose well known details of the arrangement of these photodetectors, such as that they are a series of adjacent photodetectors to the extent claimed. Also Fujisawa does not plurality of spatially separated spots that are detected by these photodetectors.

However Noda clearly discloses the concept of plural photodetectors and plural spots that these photodetectors monitor. Both Fujisawa, and Noda are interested in providing smooth signals from the photodetectors and combine proper signal that are reflected back from the photodetectors to control the tracking and focusing with minimum parts. Both shows multiple detectors and multiple spots.

Therefore, it would have been obvious to provide the system of Fujisawa with arrangement of series of photo-detectors with ability to detect plurality of spatially separted spots and associated details as taught by Noda. The application or use of the series of photo-detectors as taught by Noda would have been obvious, because the series of photo-detectors performs the same function in the same way as the series of photo-detectors means of Fujisawa's system, and is an equivalent element. One of ordinary skill in the art would have recognized that the series of photo-detectors means of Noda was equivalent and an obvious alternative to the photo-detectors means of system of Fujisawa.

Also combining parts for desired effect is not given patentable weight as is pointed out by courts.

Fujisawa does not teach adjacent photo-detectors . However these kind of series of photo-detectors are well known in the art. It would have been obvious to a person of ordinary skill at the time of the invention to have combined series of photo-detectors into the system of Fujisawa because doing so would make design faster and easy to repair. As shown in "In re Larson **144 USPQ 347 (CCPA 1965)** to make parts integral is generally not given patentable weight or would have been obvious improvements.

7. As to claim 2, Fujisawa discloses:

the plurality of light beams are generated by making light from a light source (fig. 14, unit 80) pass through a diffraction grating (fig. 7, unit 81) [col. 13, lines 12-52].

8. As to claim 3, Noda discloses:

at least one of said plurality of photodetectors includes a plurality of light reception areas for divisionally receiving one light beam [col. 3, lines 7-27 and col. 4, lines 7-25 also fig. 3].

9. As to claim 4, Fujisawa discloses:

an optical axis of the reflected light passing through the collimator is changed to an optical axis toward said focus adjusting means by a beam splitter [fig. 10, unit 82] upon which the reflected light passed through the collimator becomes incident [col. 13, lines 12-23.

10. As to claim 5, Fujisawa teaches all of the above elements including photodetectors. Fujisawa does not teach a device for visual confirmation (CCD). "Official Notice" is taken that both the concept and the advantages of 'providing for visual displays which can display different light and spot forming are well known and expected in the art. It would have been obvious to include a visual display (CCD) to system of Fujisawa as this display units are known to provide the operator with visual feedback to verify the exact spot being formed on the disc and thereby saving time and money on wrong alignment. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

11. As to claim 7, Fujisawa discloses:

said focus adjusting means is made movable between the beam splitter and said photodetectors [col. 12, lines 4-47].

12. As to claim 8, Fujisawa discloses:

focus adjusting means is moved by being slid on said chassis [col. 12, lines 4-65].

13. As to claim 9, Fujisawa discloses all of the above elements including deposition of photodetectors [98 and 99] and focus adjusting means and that they are away from each other by an offset. Fujisawa does not specifically teach that this device placement is related by the well known equation of (y = ax + b where a and b are constants). "Official Notice" is taken that both the concept and the advantages of placing device with y = ax + b formula are well known and expected in the art when offset between two part is involved. It would have been obvious to have placed these two parts which follows the equation y = ax + b, because it would provided guideline for the placement of the parts while being formed in the system and thereby saving time and money on wrong alignment and placement. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

14. As to claim 16 it is rejected for the similar reasons as set forth in rejection of claim 1, above. As to the added limitation, Fujisawa discloses:

(d) means for adjusting a distance between said focus adjusting means and said photodetectors, wherein said adjusting means includes a first member (72) for supporting said focus adjusting means and a second member (78) supported by said chassis in a slidable manner for supporting said photodetectors, and the distance is adjusted by moving the first member along said chassis [col. 9, lines 39-67] and col. 13, lines 12-63].

15. As to claim 18, Fujisawa discloses:

(a) a light reflection optical element (fig. 14, unit 14) for reflecting a plurality of light beams incoming along a direction of a first axial line, toward a direction of a second axial line different from the first axial line [col. 15, lines 17-37 and col. 15, line 50 to col. 16, line 19];

(b) spot forming means (fig. 14, unit 51) for forming a spot of each light beam incoming along the direction of the second axial line from said light reflection optical element, on each track of a recording medium [fig. 14, unit 1] [[col. 15, lines 17-37 and col. 15, line 50 to col. 16, line 19];

(c) support means (unit 79) for rotatably supporting said light reflection optical element about at least one rotation axial line on a chassis, the rotation axial line passing a reference point (138) which is a cross point between the first and second axial lines [col. 15, lines 12-49];

(d) fixing means (inherently present) for fixing said light reflection optical element to the chassis [col. 13, line 24 to col. 14, line 17]; and

(e) reflected light detecting means (units 98 and 99) for detecting reflected light of each spot passed through said spot forming means [col 15, lines 12-37].

Fujisawa discloses all of the above elements including a series of photodetectors. The Fujisawa does not specifically disclose well known details of the arrangement of these photodetectors, such as that they are a series of adjacent photodetectors to the extent claimed. Also Fujisawa does not plurality of spatially separated spots that are detected by these photodetectors.

However Noda clearly discloses the concept of plural photodetectrs and plural spots that these photodetectors monitor. Both Fujisawa, and Noda are interested in providing smooth signals from the photodetectors and combine proper signal that are reflected back from the photodetectors to control the tracking and focusing with minimum parts. Both shows multiple detectors and multiple spots.

Therefore, it would have been obvious to provide the system of Fujisawa with arrangement of series of photo-detectors with ability to detect plurality of spatially separted spots and associated details as taught by Noda. The application or use of the series of photo-detectors as taught by Noda would have been obvious, because the series of photo-detectors performs the same function in the same way as the series of photo-detectors means of Fujisawa's system, and is an equivalent element. One of ordinary skill in the art would have recognized that the series of photo-detectors means

of Noda was equivalent and an obvious alternative to the photo-detectors means of system of Fujisawa.

Also combining parts for desired effect is not given patentable weight as is pointed out by courts.

Fujisawa does not teach adjacent photo-detectors . However these kind of series of photo-detectors are well known in the art. It would have been obvious to a person of ordinary skill at the time of the invention to have combined series of photo-detectors into the system of Fujisawa because doing so would make design faster and easy to repair. As shown in "In re Larson **144 USPQ 347 (CCPA 1965)** to make parts integral is generally not given patentable weight or would have been obvious improvements.

16. As to claim 19, Fujisawa discloses:

19. the rotation axial line includes a rotation axial line perpendicular to both the first axial line and the second axial line [col. 16, lines 2-61].

17. As to claim 20, Fujisawa discloses:

the rotation axial line includes a rotation axial line coincident with the first axial line [col. 16, lines 2-61].

18. As to claim 21, Fujisawa discloses:

the rotation axial line includes a rotation axial line coincident with the second axial line [col. 16, lines 2-61].

19. As to claim 22, Fujisawa discloses:

said support means includes a spherical fitting portion [col. 13, line 64 to col. 14, line 47].

20. As to claim 23, Fujisawa discloses:

light reflection optical element is a triangular prism [col. 14, line 48 to col. 15, line 7]. NOTE: Fujisawa does not use word triangular prism but picture and action of unit are exactly as that of a triangular prism.

21. As to claim 27, Fujisawa discloses various shapes of support means including concave and convex shapes. Fujisawa does not teach that this particular part has concave and convex spherical portion that can be fitted together. "Official Notice" is taken that both the concept and the advantages of providing concave and convex parts and their fitting are well known and expected in the art. It would have been obvious to include these kind of parts, as these parts are known to fit better with each other because of their mutually fitting shape. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

22. As to claims 28-29 and 31-32. Fujisawa discloses various shapes of support means including various screws bolts washers and related accessories. Fujisawa does not specifically teach in detail where each and every screw goes to the extent claimed. "Official Notice" is taken that both the concept and the advantages of providing different screws, bolts and washer in different places for proper attachment of different parts. It would have been obvious to include these kind of parts, and its arrangement in the system of Fujisawa because without proper fixing of parts system will fall apart and will not work. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

Also arranging parts in different order is well known in the art. It would have been obvious to a person of ordinary skill at the time of the invention to have arranged parts with different connection of bolts and washers. As shown in "In re Japikse **86 USPQ 70 (CCPA 1950)**" that to shift location of parts as such is generally not given patentable weight or would have been obvious improvements. Also using different screws, washers etc. does not change the operation of the optical head at all.

23. As to claim 30, it is rejected for the similar reasons set forth in the rejection of claim 18, supra.

NOTE: Fujisawa and Noda were disclosed in IDS, paper no. 6.

24. Applicant's arguments with respect to claims xc have been considered but are moot in view of the new grounds of rejection.

Allowable Subject Matter

25. Claim 6 is objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and subject to overcoming objection of independent claims.

NOTE: Claim 6 is allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose an apparatus which includes optical head which includes a CCD for visual confirmation of light incident upon each photodetector and "this detecting means (CCD) being disposed on an opposite side of the beam splitter relative to said focus adjusting means". It is noted that the closest prior art, Fujisawa and Noda shows a similar apparatus which has plural photodetectors and visual confirmation of various light spots are well known in the art. However Fujisawa and Noda fails to discloses placement of CCD as claimed.

Contact Information

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

GAUTAM R. PATEL
PRIMARY EXAMINER

GRPatel

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

May 10, 2004